

ZAREENA BEGUM IRFAN

Specialised Research Areas:

Hydro-Economics, Economics of Land Use Change, Environmental Footprint, Virtual Water Trade, Anthropocene and Habitat Loss, Aquatic Resources – Policy and Planning, Sustainable Water Management, Ecology of Production and Consumption, Sustainable Intervention Strategies for Techno-Economic Feasibility, Socio-hydrology and decision making under uncertainty, Hydro-Economics, Water Sustainability

EDUCATION:

Indian Institute of Technology (IIT) Roorkee, Roorkee, India

PhD, July 2007

Dissertation Topic: Studies on the Removal of Arsenic - An Environmental Toxicant

Pondicherry Central University, Pondicherry, India

M.Sc. Five Year Integrated Sciences, 1998-2003

St. Joseph of Cluny Girls Higher Secondary School, Pondicherry, India

Higher Secondary, April 1998 81.3%

Matriculation, April 1996 80.1%

Memberships:

Life Member of the International Water Resource Economics Consortium

Member of the East Asian Association of Environmental and Resource Economics

Member of the Asia Development Bank Consultant Management System

Member of the South Asian Network for Development and Environmental Economics

Member of the Asia-Pacific Chemical, Biological and Environmental Engineering Society

ACADEMIC EXCELLENCE:

- **World Ecofeminism Promotion Award** for the year 2017 during the World Clean Environment Congress held on June 5, 2017 by the International Foundation for Environment and Ecology and the Confederation of Indian Universities
- **Visiting Fellow** in March 2017 under the UGC Special Assistance Programme DRS-II by the Department of Economics, Jamia Millia Islamia –Central University New Delhi
- **Young Environmental Scientist Award** for the year 2016 by the International Foundation for Environment and Ecology and the Confederation of Indian Universities
- Awarded with research fellowship for the degree of Ph.D by the Ministry of Human Resource and Development (MHRD), New Delhi, India in 2003- 2007
- Awarded by the Indian Academy of Sciences for the Research Fellowship, 2003
- Graduate Aptitude Test for Engineering (GATE) Qualified, 2003

- Test for English as Foreign Language (TOEFL) Qualified, October 2002

PROFESSIONAL EXPERIENCE [2007-Present] 10 years + service:

Academic Responsibilities:

Associate Professor, Madras School of Economics, May 2013 till date

Assistant Professor, Madras School of Economics, October 2007-April 2013

Teaching Assignments:

Mathematical Methods, Environment and Resource Economics, Environmental Policy, Environment and Health, Introduction to Environmental Systems and Urban Economics to the Post-graduate students, Madras School of Economics.

Ecology and Environment for the Undergraduate students, Indian Institute of Information Technology, Design and Manufacturing, Chennai

Coastal Resource Management for the Post-graduate students, Institute of Ocean Management, Anna University, Chennai.

Advanced Certificate Course on Sustainable Development and Environmental Management for the International Participants, National Institute of Technical Teacher Training and Research, Chennai.

Students from science/technology/humanities backgrounds have been taught with interdisciplinary environmental science courses. The students' evaluation for various courses has always been above 3.8 out of 5.

Prepared the study material for the Post-Graduate Diploma course in Sustainability Science, Indira Gandhi National Open University

Institutional Responsibilities:

Programme Coordinator for the Five Days Training program on Environmental Economics for the Senior Engineers and Scientists of the Tamil Nadu Pollution Control Board held in March 9-13, August 10-14, November 2-6, November 23-27, 2015 and January 18-22, February 15-19, 2016

Faculty In-charge for the Centre of Excellence in Environmental Economics, Madras School of Economics [2007 to present] and was also coordinating the Environmental Information System [ENVIS], Madras School of Economics till 2012.

Member of the editorial team of the newsletters **GREEN THOUGHTS and ENVISAGE** published in the Centre of Excellence in Environmental Economics and ENVIS Centre of Environmental Economics in Madras School of Economics, respectively.

Involved in revamping the websites of the Environmental Information System (ENVIS) <http://envis.mse.ac.in> and Centre of Excellence in Environmental Economics website <http://coe.mse.ac.in> of Madras School of Economics [2008].

Faculty Advisor:

Chair, Admission Committee, Master's Program 2017-19 batch, Madras School of Economics M.Sc Environmental Economics (Central University of Tamil Nadu), Madras School of Economics 2014-16 and 2015-17

M.Sc General Economics (Central University of Tamil Nadu), Madras School of Economics 2013-15

Girls Hostel Warden, Madras School of Economics July 2011- June 2013

M.Sc Actuarial Economics, Applied Quantitative Finance, Environmental Economics (IGNOU batch), Madras School of Economics 2010-12

M.Sc General Economics (Anna University batch), Madras School of Economics 2008-10

SPONSORED PROJECTS UNDERTAKEN:

"Urban Dynamics, Landscape Ecological Security, and Policy Implications: A case study of Chennai region" project funded by the Ministry of Environment, Forest and Climate Change, Government of India. **Ongoing since January 2017**

"Assessing Barriers of Trade in Service Sector of India: A Network Analysis to Reform Service for Inclusive and Sustainable Medical Tourism" under the sponsorship of the 16th Round Regional Research Competition by the South Asia Network of Economic Research Institutes, **March 2015 – November 2016**

"Economic Valuation of Ecosystem Services: A Case Study of Ousteri Wetland, Puducherry", project funded by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Indo-German Biodiversity Programme Office: **September 2014 – July 2015**

"Economy-wide impacts of pollution in India – Meta-Analysis", project funded by Ministry of Environment and Forests, Government of India, **October 2010 – October 2013**

"Trade and Environment: India's Exports of Textile and Textile Products and Environmental Requirements", project funded by the Ministry of Environment and Forests, Government of India: **July 2008 - June 2010.**

"Wood Balance Study for Tamil Nadu", project funded by State Forest Research Institute, Tamil Nadu: **June 2008 – June 2009.**

"Economics of Municipal Solid Waste Management in Tamil Nadu: A State Level Case Study", project funded by Central Pollution Control Board: **October 2007- March 2009.**

DISSEMINATED PROJECT REPORTS:

"Assessing Barriers of Trade in Service Sector of India: A Network Analysis to Reform Service for Inclusive and Sustainable Medical Tourism" under the sponsorship of the 16th Round Regional Research Competition submitted to the South Asia Network of Economic Research Institutes, December 2016

"Economic Valuation of Ecosystem Services: A Case Study of Ousteri Wetland, Puducherry", Research Report submitted to the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, July 2015

"Economy-wide Impact of Pollution in India: A Meta-Analysis", Research Report submitted to the Ministry of Environment and Forests, GoI, October 2013.

"Trade and Environment: India's Exports of Textile and Textile Products and Environmental Requirements", Research Report submitted to the Ministry of Environment and Forests, GoI, January 2011.

“Wood Balance Study of Tamil Nadu”, Research Report submitted to State Forest Research Institute, Tamil Nadu, June 2009.

“Economics of Municipal Solid Waste Management in Tamil Nadu – A State Level Case Study”, Research Report submitted to Central Pollution Control Board, New Delhi, March 2009.

“Resurvey to determine the status of teaching and research in Environmental Economics in various institutions of India”, report submitted to the Ministry of Environment and Forests, Gol, February 2008

Responsibilities as Doctoral Candidate [2003-2007]:

Indian Institute of Technology, Roorkee (IIT Roorkee), India

Research Scholar & Teaching Assistant, 2003-2007

Research Accomplishments:

- Developed environment-friendly technique of separating, removing and recovering various toxic and precious elements from different environmental sites ranging from natural ores to industrial effluents to ground water and drinking water using a variety of remedial techniques like solvent extraction, adsorption, and membrane filtration.
- Designed a scheme for the removal of the toxin arsenic along with the quantitative recovery of other precious elements like copper, lead, mercury, bismuth, antimony, nickel and selenium from different industrial effluents, especially from electrolytic solutions and complex matrices.
- Developed a water purifier which could be applied in real-time application for the decontamination of arsenic from groundwater, drinking water, industrial effluent and from seawater using impregnated fibrous supports, silica gel and supported liquid membranes.

PUBLICATIONS:

Journal Publications:

Zareena Begum Irfan and Arpita Nehra (2016): "Analyzing the Aid Effectiveness on the Living Standard: A Check-up on South East Asian Countries", *Journal of Urban Management*, 5(1), pp: 23-31
<http://dx.doi.org/10.1016/j.jum.2016.07.001>

Zareena Begum Irfan and Mohana Mondal (2016): "Environmental Assessment on the Operative Mode of Tanneries and Brickfields in India Using Water Footprint Tool", *American Journal of Engineering Research*, Volume-5, Issue-7, pp: 169-175

Zareena Begum Irfan, Anu Anna Jo and Mohana Mondal (2016): "Ecosystem Hotspot Identification and Examination of the Land Use Change in Agricultural Ecosystem Using Geological Information: Evidence from India", *American Journal of Engineering Research*, Volume-5, Issue-7, pp: 176-184

Zareena Begum Irfan, Abhijit Sharan and Mohana Mondal (2016): "Circulation Economics: Dynamic Material Flow Analysis of Metal Trade in India", *American Journal of Engineering Research*, Volume-5, Issue-7, pp: 185-192

Zareena Begum Irfan, Anu Anna Jo and Mohana Mondal (2016): "Status Check of the Mining Hub of India: Examining the Land-Use Pattern Observed in the Forest –Agricultural Ecosystem of Dhanbad", *American Journal of Engineering Research*, Volume-5, Issue-7, pp: 193-201

Zareena Begum Irfan, Anu Anna Jo and Mohana Mondal (2016): "Urbanization as a Land use change driver of Forest Ecosystem: Land-Use Pattern Change Analyzed for the Indore city", *American Journal of Engineering Research*, Volume-5, Issue-7, pp: 202-209

Zareena Begum Irfan and Mohana Mondal (2016): 'Water Footprint Analysis in Dairy Industry in India', *International Journal of Environmental Science and Development* Vol. 7, No: 8, 591-594

Zareena Begum Irfan, Mohammed Tajuddin Khan and Karthick Radhakrishnan, (2015) "Determinants of Fuel Choice among Indian Households: An Empirical Investigation", *Pollution Research*, 34 (2): 297-305

Bina Gupta, Poonma Malik and **Zareena Begum Irfan**, (2013) "Recovery of uranium, thorium and zirconium from allanite by extraction chromatography using impregnated chromosorb" *Water Resources and Industry*, 4, 21-31

Zareena Begum Irfan (2012), 'Arsenic Contamination in Water: A Conceptual Framework of Policy Options with particular reference to Bengal Delta Basin', *International Journal of Hydrology Science and Technology*, 2(4), 391-401

Bina Gupta and **Zareena Begum Irfan** (2012), 'Equilibrium and Kinetic Studies for the Adsorption of Arsenic from aqueous medium using Cyanex 301- Impregnated Natural and Synthetic Fibrous Supports', *Interdisciplinary Environmental Review*, 13 (2/3), 202-219

Zareena Begum Irfan, Bina Gupta and Tandon, S. N., (2012), 'Removal of arsenic from anthropogenic aqueous media: An Analytical review with particular reference to solvent extraction technique', *Interdisciplinary Environmental Review*, 13 (2/3), 127-138

Zareena Begum Irfan and Uvaneswari, (2012), 'Determination of the Cost-Effective Adsorbents to Remove Toxic Metal Pollutants from Industrial Waste Water', *International Journal of Social Science and Interdisciplinary Research*, 1(4), pp: 19-25, ISSN online: 2277 3630

Zareena Begum Irfan and Vibha Sankar, (2012), 'Assessment of Health Impacts on Residents Living on the Banks of the Buckingham Canal, Chennai', *International Journal of Social Sciences and Interdisciplinary Research*, 1(3), pp: 16-27, ISSN online: 2277 3630

Zareena Begum Irfan and Dhriti Mirpuri, (2012), 'Valuing the Environmental Status of an Agricultural Heritage: A Case Study of Kapaleeshwar Temple, India', *International Journal of Social Sciences and Interdisciplinary Research*, 1(3), pp: 37-45, ISSN online: 2277 3630

Zareena Begum I (2011), "Environmental Pollution and Public Health: The Socio-Economic Analysis of the Global Drivers of Change", Print ISBN: 978-1-4244-9184-1, DOI: [10.1109/RSTSCC.2010.5712791](https://doi.org/10.1109/RSTSCC.2010.5712791), *IEEE Xplore*, pp: 19-24

Zareena Begum I (2011), "Safer building practices to deal with earthquakes: Challenges and Lessons learned from the South Asian countries", *Indian Journal of Science and Technology*, Vol. 4, Issue 3, pp: 219-225.

Zareena Begum I (2011), "Status and causes for the change in the concentration of natural marine wealth – Coral Reefs" *Indian Journal of Science and Technology*, Vol. 4, Issue 3, pp: 351-358.

Bina Gupta and **Zareena Begum I** (2008), Separation and Removal of Arsenic from

Metallurgical Solutions using Bis(2,4,4-trimethylpentyl)dithiophosphinic acid as Extractant, *Separation & Purification Technology*, 63(1), 77-85.

Bina Gupta, **Zareena Begum I** and Garima Rajput (2008), Equilibrium and Kinetic Studies for the Adsorption of Mn(II) and Co(II) from aqueous media using Agar-Agar as Sorbent, *Chemical Engineering Communications*, 195 (10), 1200-1212

Zareena Begum I and Bina Gupta (2007), Removal of Arsenic from natural water sources using Cyanex 301-Impregnated Adsorbents through Column Mode of Operation, *Water Research*, 7(3), 212-226

Bina Gupta, Niti Mudhar, **Zareena Begum I** and Indu Singh (2007), Extraction and Recovery of Ga(III) from Waste Material using Cyanex 923, *Hydrometallurgy* 87(1-2), 18-26.

Bina Gupta and **Zareena Begum I** (2006), Stabilization of Solvent-Impregnated Resins (SIRs) by coating with Water-soluble Polymer and Chemical Cross-linking and its Application in Mercury Removal, *Journal of Composite Interfaces*, 13(4-6), 487-506

Book Chapters:

Zareena Begum Irfan (2015): 'Sustainable Water Reuse and Outlooks', in *Urban Water Reuse Handbook* Edited by Eslamian, S, Francis and Taylor, CRC Group Volume 2, Chapter 85

Zareena Begum Irfan (2015): 'Urban Water Reuse Risk', in *Urban Water Reuse Handbook (UWRH)* edited by Eslamian, S, Francis and Taylor, CRC Group Volume 1, Chapter 40

Zareena Begum Irfan (2015): 'Improving Tiger Conservation in India' Chapter 11 in 'Environment and Development - Essays in Honour of Dr. U. Sankar' Edited by Shanmugam, K.R. and K.S. Kavi Kumar, Sage Publications

Zareena Begum and Sukanya Das (2017): "Global and Indian Supply Chain of Textiles", Chapter 2 in "A Study of India's Textile Exports and Environmental Regulations", Editors: Kumar, K.S. Kavi (Ed.), Springer

Zareena Begum and K.S. Kavi Kumar (2017): "Global Environmental Requirements – Textile Industry", Chapter 4 in "A Study of India's Textile Exports and Environmental Regulations", Editors: Kumar, K.S. Kavi (Ed.), Springer

K. S. Kavi Kumar, **Zareena Begum** and Sukanya Das (2017): "Non-Tariff Barriers in Textiles: Incidence and Perceptions", Chapter 5 in "A Study of India's Textile Exports and Environmental Regulations", Editors: Kumar, K.S. Kavi (Ed.), Springer

Bibliographical Survey Series

Green Finance

Economics of E-Waste

Economics of Forest Management

Trade and Environment

Economics of Water Pollution

MSE Working Papers

Zareena Begum Irfan, Venkatachalam. L, Jayakumar S and Satarupa Rakshit (2017) “Examining the Land Use Change of the Ousteri Wetland using the Land Use Dynamic Degree Model, MSE working Paper No: 156, Madras School of Economics, Chennai

Zareena Begum Irfan, Venkatachalam. L, Jayakumar S and Satarupa Rakshit (2017) “Evaluation Index System (EIS) for the Ecological- Economic- Social Performances of Ousteri Wetland across Puducherry and Tamil Nadu”, MSE working Paper No: 155, Madras School of Economics, Chennai

Zareena Begum Irfan and Jeeva Mary Jacob (2016): Game Theoretical Approach to regulate the Public-owned River water utilities: A Case study of Cauvery River, MSE Working Paper WP-142

Mohana Mondal, **Zareena Begum Irfan** and Sunder Ramaswamy (2016): Does Carbon Tax makes Sense? Assessing Global Scenario and Addressing Indian Perspective, MSE Working Paper WP-141

Lakshmi Sreedhar and **Zareena Begum Irfan** (2016): Economic Incentives for the Conservation of Bharathapuzha River: Focus on Sand Mining, MSE Working Paper WP-140

Zareena Begum Irfan, Arpita Nehra and Mohana Mondal (2015): Analyzing the Aid Effectiveness on the Living Standard: A Check-Up on South East Asian Countries, MSE Working Paper WP-128

Zareena Begum Irfan, Arpita Nehra and Mohana Mondal (2015): The Culmination of the MDG’s: A New Arena of the Sustainable Development Goals, MSE Working Paper WP-127

Zareena Begum Irfan and Mohana Mondal (2015): Analyzing the Water Footprint of Indian Dairy Industry, MSE Working Paper WP-123

Zareena Begum Irfan and Bina Gupta (2015), To Consume or to Conserve: Examining Water Conservation Model for Wheat Cultivation in India, MSE Working Paper No. 101, Madras School of Economics, Chennai

Zareena Begum I and Amanat K. Gill (2014), Analyzing the Pathway to improve Tiger Conservation in India, MSE Working Paper No. 90, Madras School of Economics, Chennai

Zareena Begum I (2012), ‘Arsenic Contamination in Water: A Conceptual Framework of Policy Options’, MSE Working Paper No. 64, Madras School of Economics, Chennai

Technical Reports

Zareena Begum Irfan (2017) “Economics of Sustainable Cities”, MSE – CoE Dissemination Paper No: 33, Centre of Excellence in Environmental Economics, Madras School of Economics, Chennai

Zareena Begum Irfan (2017) “Greenhouse Gas Accounting”, MSE – CoE Dissemination Paper No: 34, Centre of Excellence in Environmental Economics, Madras School of Economics, Chennai

Zareena Begum Irfan (2017) "Economics of Biotechnology", MSE – CoE Dissemination Paper No: 35, Centre of Excellence in Environmental Economics, Madras School of Economics, Chennai (Under Revision)

Zareena Begum I (2014), 'Urbanization and Environment', *Dissemination Paper for the Ministry of Environment and Forest, Government of India*

Zareena Begum I (2012), 'Solid Waste Management', *Dissemination Paper for the Ministry of Environment and Forest, Government of India*

Zareena Begum I (2011), 'Arsenic Contamination in Water: Mitigation and Policy Options', *Green Thoughts: CoE Newsletter*, 3(1) pp: 5-10

Zareena Begum I (2010), 'Plastics and Environment', *Dissemination Paper for the Ministry of Environment and Forest, Government of India*

Zareena Begum I (2010), 'Bhopal Gas Tragedy: The Disaster Exported to India', in *ENVISAGE – Newsletter*, Vol 7, No. 2, pp: 2-8

Zareena Begum I (2010), 'Liability and Environmental Damage: The Indian Experience', in *ENVISAGE – Newsletter*, Vol 7, No. 2, pp: 9-10

Zareena Begum I (2009), 'Sustainable Building Rating System', in *ENVISAGE – Newsletter*, Vol 6, No. 2, pp: 9-14

Zareena Begum I (2009), 'Plastic Fantastic', in *ENVISAGE – Newsletter*, Vol 6, No. 1, pp: 2-8

Zareena Begum I (2009), 'Paper or Plastic', in *ENVISAGE – Newsletter*, Vol 6, No. 1, pp: 9

Zareena Begum I (2009), 'Environmental Health', *Dissemination Paper for the Ministry of Environment and Forest, Government of India*

Zareena Begum I (2008), 'Proper sanitation offers health and wealth', in *ENVISAGE Newsletter*, Vol.5, No. 1, pp: 2-3

Zareena Begum I (2008), 'Water Supply and Sanitation in Tamil Nadu', in *ENVISAGE Newsletter*, Vol.5, No. 1, pp: 13-15

Zareena Begum I (2007), 'Namakkal: Dustbin Free City', in *ENVISAGE – Newsletter*, Vol.4, No. 3, pp:78

PAPER PRESENTATIONS IN NATIONAL / INTERNATIONAL CONFERENCES /SEMINARS / SYMPOSIUMS

"Evaluating the Social-Economic-Ecological System for Sustainable Development: An Interpretive Analysis of Chennai Region" presented in the International Conference on the Development and Challenges in Post Independent India organized by the DRBCCC Hindu College, Pattabiram, Chennai on March 3 and 4, 2017

"Evaluation Index System (EIS) for the Ecological Economic Social Performances of Ousteri Wetland across Puducherry and Tamil Nadu" presented in the fourth Indian Biodiversity Congress organized by Centre for Innovation in Science and Social Action (CISSA) at the Pondicherry University on March 10-12, 2017.

"Examining the Land Use Change of the Ousteri Wetland using the Land Use Dynamic Degree Model" presented in the fourth Indian Biodiversity Congress organized by Centre for Innovation in Science and Social Action (CISSA) at the Pondicherry University on March 10-12, 2017.

"The Characteristics of Residential Energy Consumption Modeling –Empirical Examination of Indian Scenario" presented in the fourth Indian Biodiversity Congress organized by Centre for Innovation in Science and Social Action (CISSA) at the Pondicherry University on March 10-12, 2017.

"Is India Really Sustaining or Degrading to a Furnace Island? Analyzing the Energy Consumption Pattern of Indian Households" presented in the Third International Conference on Environment and Ecology organized by the International Foundation for Environment and Ecology in collaboration with the Confederation of Indian Universities at the St. Xavier's College, Ranchi, Jharkhand on March 27-29, 2017.

"Sustainable Performance Index of Ousteri Wetland: Evaluating the Ecological, Economic and Social Characteristics" presented in the Third International Conference on Environment and Ecology organized by the International Foundation for Environment and Ecology in collaboration with the Confederation of Indian Universities at the St. Xavier's College, Ranchi, Jharkhand on March 27-29, 2017.

"Land Use Change of the Ousteri Wetland: Ecological Economic Evidence Using Geological Data" presented in the Third International Conference on Environment and Ecology organized by the International Foundation for Environment and Ecology in collaboration with the Confederation of Indian Universities at the St. Xavier's College, Ranchi, Jharkhand on March 27-29, 2017.

"Ecological Status of Ousteri Wetland: A Complete Checkup of Biodiversity Concentration" presented in the Third International Conference on Environment and Ecology organized by the International Foundation for Environment and Ecology in collaboration with the Confederation of Indian Universities at the St. Xavier's College, Ranchi, Jharkhand on March 27-29, 2017.

"Hydrological and Geological Status of Ousteri wetland: To consume or to Conserve" presented in the Third International Conference on Environment and Ecology organized by the International Foundation for Environment and Ecology in collaboration with the Confederation of Indian Universities at the St. Xavier's College, Ranchi, Jharkhand on March 27-29, 2017.

"Economic Valuation of Ecosystem Services for Sustainable Environmental Management: A Case Study of Wetland Ecosystem Valuation" presented in the Two-day conference on Papers in Public Economics and Policy organized by the National Institute of Public Finance and Policy, New Delhi on March 23-24, 2017.

'Water Footprint Analysis in Dairy Industry in India' was presented in *the 3rd International Conference on Sustainable Environment and Agriculture (ICSEA 2015)* organized at Columbia University, New York, October 11-12, 2015

"Incentive Mechanism: Implementation and Policy Level Comparison of Canal Irrigation in the Dragon and the Snake Land", paper presented at the *fifth MSE Faculty Seminar Series* held at the Hotel Tamil Nadu, Yercaud on March 21, 2015

"Incentive Mechanism: Implementation and Policy Level Comparison of Canal Irrigation in the India and China" at the *International Seminar on the Climate Change and Food Security – the Global and Indian Contexts* organized jointly by the Centre for Ecological Economics and Natural Resources, Institute for Social and Economic Change, India and the Faculty of Science, University of

Sydney, Australia at the Institute of Social and Economic Change, Bangalore on February 18, 2015

“Green Accounting of the Indian Metal Mining Sector” at the two - day International Seminar on *‘Natural Resource and National Accounts in South Asia’* organized at the Institute of Social and Economic Change, Bangalore on February 5, 2015

“Techno-Economic Assessment of Electronic Waste: Material Flow Analysis and Management Scenario” at a technical session focussing on Agro Biodiversity and Waste Management, at the *International Conference on “Agro Biodiversity and 20 Years of WTO”* organized by the Department of Environmental Law and Legal Order, The Tamil Nadu Dr. Ambedkar Law University, Chennai on January 29, 2015.

“Poisoning the future: Arsenic contamination of drinking water wells and children’s educational achievement in rural West Bengal’ at a technical session focussing on Agro Biodiversity and Life Sciences, at the *International Conference on “Agro Biodiversity and 20 Years of WTO”* organized by the Department of Environmental Law and Legal Order, The Tamil Nadu Dr. Ambedkar Law University, Chennai on January 28, 2015.

“Agricultural productivity Growth and Public Infrastructure: An Evaluation of past three decades of India” at a technical session focussing on Agro Biodiversity and Life Sciences, at the *International Conference on “Agro Biodiversity and 20 Years of WTO”* organized by the Department of Environmental Law and Legal Order, The Tamil Nadu Dr. Ambedkar Law University, Chennai on January 28, 2015.

“Impact of fertilizer consumption: An Indian Scenario” at a technical session focussing on Agro Biodiversity and Life Sciences, at the *International Conference on “Agro Biodiversity and 20 Years of WTO”* organized by the Department of Environmental Law and Legal Order, The Tamil Nadu Dr. Ambedkar Law University, Chennai on January 28, 2015.

“Implementation and Policy level suggestions for Irrigation in India” at a technical session focussing on Agro Biodiversity and Life Sciences, at the *International Conference on “Agro Biodiversity and 20 Years of WTO”* organized by the Department of Environmental Law and Legal Order, The Tamil Nadu Dr. Ambedkar Law University, Chennai on January 28, 2015.

“Public and Private Medical Infrastructure Provision Across India: An Econometric Analysis” at the *National Symposium on Health-The Next Right* organized by the Loyola Economics Association for Development (LEAD), Chennai, on January 23, 2015

“Arsenic contamination of drinking water wells and children’s educational achievement of Muslims in rural West Bengal” at a session focussing on the health status of Muslims in India at the ICSSR Sponsored *National Conference on Socio-Economic and Political Status of Muslims in India: Challenges and Development* organized at the School of Social Sciences and Humanities, B.S. Abdur Rahman University, Chennai on January 22, 2015.

“Implementation and policy level comparison of canal irrigation at the Dragon and Snake Land”, *Workshop on “Comparing Water Governance in China & India: Challenges & Policy Options”* October 24-25, 2014, Institute of Water Policy, Lee Kuan Yew School of Public Policy, Singapore.

“Indian Delta’s Anguish: Game theoretical approach to the Conflict across Kaveri River Water Sharing” paper presented at the *International Conference on Water, Climate and Renewable Energy (ICWCRE’14)* on May 29, 2014 at Eastland Hotel, London

“Financial Development and CO2 Emissions in India: A Time Series Analysis” paper presented at the *International Conference on Water, Climate and Renewable Energy (ICWCRE'14)* on May 29, 2014 at Eastland Hotel, London

‘Green Accounting of the Indian Metal Mining Sector’ paper presented at the *Fourth MSE Faculty Seminar Series* held at Central University of Tamil Nadu, Thiruvavur, February 2014

‘Health Impacts of Air and Water Pollution in India: A Systematic Review’, was presented at the *Fourth MSE Faculty Seminar Series* held at Central University of Tamil Nadu, Thiruvavur, February 2014

‘Analyzing the Pathways to Improve Tiger Conservation in India’ paper presented at the *Third MSE Faculty Seminar Series* held at Madras School of Economics, January 2013

‘Poisoning the future: Examining the Adverse Effect of Arsenic on Children’s Educational Achievement with an insight on the Quantitative Removal Techniques of Arsenic’ paper presented at *The Science and Economics of the Environment Issues: the Twain Shall Meet* seminar at Madras School of Economics organized in collaboration with Lancaster University Management School on November 19-20, 2012

‘Poisoning the Future: Arsenic Contamination of Drinking Water Wells and Children’s Educational Achievement in Rural West Bengal’, paper presented in the *Second MSE Faculty Seminar Retreat*, 24-25 March, 2012, Pondicherry.

‘Arsenic Contamination in Water: A Conceptual Framework of Policy Options with particular reference to Bengal Delta Basin’, was delivered in the *First MSE Faculty Seminar Retreat*, 20-21 August, 2011, MGM Beach Resort, Chennai.

“Environmental Pollution and Public Health: The Socio-Economic Analysis of the Global Drivers of Change” *International Conference on "Recent Advances in Space Technology services and Climate Change-2010* held from November 13-15, 2010 in Sathyabama University organized by Sathyabama University in association with Indian Space Research Organisation (ISRO), Department of Space, Government of India, Bangalore & IEEE.

“Status and causes for the change in the concentration of natural marine wealth – Coral Reefs” *International Conference on Global Environment and its Sustainability: Implications and Strategies* held on November 7, 2010 in Vivekananda College, Chennai organized by Indian Society for Education and Environment in association with Vivekananda College, Chennai & Presidency College, Chennai

“Safer building practices to deal with earthquakes: Challenges and Lessons learned from the South Asian countries” *International Conference on Global Environment and its Sustainability: Implications and Strategies* held on November 7, 2010 in Vivekananda College, Chennai organized by Indian Society for Education and Environment in association with Vivekananda College, Chennai & Presidency College, Chennai

‘A Report on the arsenic pollution caused at the industrial sites of Tamil Nadu, India’ 7th *International Science Conference on the Human Dimensions of Global Environmental Change, “Social Challenges of Global Change” (IHDP Open Meeting 2009)*, 26-30 April, 2009, Bonn, Germany

‘Removal of As(III) from Aqueous Water Stream using Cyanex 301-Impregnated Natural and Synthetic fibers’, *International Groundwater Conference, IGC-2007*, Feb 2007, Coimbatore, Tamil

Nadu, India

'Removal of As(III) from the Aqueous Stream using Cyanex 301 Impregnated Silica Gel by Batch and Column Operation Mode', *National Conference on Eco-, Sono-, and Nanochemistry*, Dec 2006, Chennai, Tamil Nadu, India

'Removal of As(III) from the natural water media using flat-sheet supported liquid membrane containing Cyanex 301 as carrier', *National Conference on Eco-, Sono-, and Nanochemistry*, Dec 2006, Chennai, Tamil Nadu, India

'Removal & Recovery of As(III) from the Aqueous Stream using Extractant Impregnated Natural and Man-Made Fibers', *First International Collaborative Conference with AATCC & INDA (AFINT 2006)*, Aug 2006, Coimbatore, Tamil Nadu, India

'Removal and Recovery of As(III) from Natural Water using Impregnated Supports', *International Conference on Environmental Geosciences (ICEG 2006)*, Feb 2006, Anna University, Chennai, Tamil Nadu, India

'Removal and Recovery of Co(II) and Mn(II) from Industrial Effluent using Agar-Agar as Sorbent', *International Interdisciplinary Conference on Sustainable Technologies and Environmental Protection (ICSTEP 2006)*, Jan 2006, Coimbatore, Tamil Nadu, India

'Extraction Chromatographic Separation of Lanthanides, Uranium, Thorium and Zirconium using Cyanex 923 impregnated on Chromosorb 102-Their Recovery from Allanite', *PREP-2005: 18th International Symposium, Exhibit & Workshops on Preparative/Process Chromatography, Ion Exchange, Adsorption/Desorption Processes & Related Separation Techniques*, May 2005, Philadelphia, Pennsylvania, USA

'Liquid-Liquid Extraction Studies on Arsenic using Organophosphorus Extractant', *National Seminar on Modern Trends in Nanotechnology and Supramolecular Assemblies*, Apr 2005, Ahmedabad, Gujarat, India

'Stabilization of Solvent Impregnated Resins (SIRs) by coating with Water-soluble Polymer and Chemical Cross-linking and its Application in Mercury Removal', *International Conference on Advances in Polymer Blends, Composites, IPNS and Gels: Macro to Nano scales (ICBC 2005)*, Mar 2005, Kottayam, Kerala, India

'Extraction and Recovery of Zirconium using Cyanex 923', *DAE-BRNS Theme Meeting on Emerging Trends in Separation Science and Technology (SESTEC 2004)*, July 2004, Bhabha Atomic Research Centre (BARC), Bombay, Maharashtra, India

Special Lectures Delivered:

"Anthropocene and Habitat Loss: Cost Benefit Analysis of Destruction, Fragmentation and Degradation" on January 13, 2018 at the UGC-HRDC sponsored Refresher Course on "Environmental Science and Geological Sciences" organized by the Human Resource Development Centre (HRDC), Pondicherry University - Central University, Puducherry between January 2-22, 2018

"Environmental Justice and Provision of Natural Resource: Techno-Economic Assessment" on January 21, 2018 at the UGC-HRDC sponsored Refresher Course on "Environmental Science and

Geological Sciences” organized by the Human Resource Development Centre (HRDC), Pondicherry University - Central University, Puducherry between January 2-22, 2018

“Green Environment and Climate Change” on June 3, 2017 at the Summer Refresher Course in Social Sciences organized by the Human Resource Development Centre (HRDC), Pondicherry University - Central University, Puducherry between June 1-21, 2017

“Green Environment and Climate Change” on June 2, 2017 at the 120th Orientation Course organized by the Human Resource Development Centre (HRDC), Pondicherry University - Central University, Puducherry between May 17 – June 13, 2017

“Urban Dynamics and Land Use Pattern Change –Chennai Scenario” presented as the Invited Lecture at Highway Research Station, Chennai on July 4, 2017

“An Ecological-Economic Approach to the Valuation of Ecosystem Services: A Case Study of the Natural and Anthropogenic Stress Ousteri Wetland” presented at the National Seminar on “Environmental Concerns and Sustainable Industrial Growth: Prospects and Challenges” organized by the Department of Economics, Jamia Millia Islamia –Central University New Delhi under the UGC Special Assistance Programme DRS-II held on March 24, 2017

Lectures delivered at the One Week Workshop on “Environment-Economy Linkages: Contemporary Issues and Challenges” organized by the Department of Economics, Jamia Millia Islamia – Central University New Delhi under the UGC Special Assistance Programme DRS-II held on March 20-23, 2017

“Economic Valuation of Ecosystem Services – Case Study of a trans-boundary Wetland, Ousteri across Puducherry and Tamil Nadu” for the Workshop on “Revisiting Tamil Nadu State Action Plan Climate Change Strategies – Water Resources Sector” sponsored by the Tamil Nadu State Land Use Research Board, State Planning Commission and organized by Department of Environment, Government of Tamil Nadu at Anna University on March 15, 2017

“Trans-disciplinary Research Perspective of Social-Economic-Ecological System for Sustainable Development: An Empirical and Interpretive Analysis” on February 11, 2017 at the UGC sponsored Refresher Course in Research Methodology organized by the Human Resource Development Centre (HRDC), Pondicherry University - Central University, Puducherry between February 1-21, 2017

“Environmental Resource and Economics – Interdisciplinary Perspective to attain Sustainable Future” on December 3, 2016 at the UGC sponsored Refresher Course on Environmental Sciences organized by the Human Resource Development Centre (HRDC), Pondicherry University - Central University, Puducherry between December 1-21, 2016

Chaired a session on the “Agro Biodiversity and Traditional Knowledge”, at the *International Conference on “Agro Biodiversity and 20 Years of WTO”* organized by the Department of Environmental Law and Legal Order, The Tamil Nadu Dr. Ambedkar Law University, Chennai on January 29, 2015.

Chaired a session on the “Present and Future of Muslims in India” in the ICSSR Sponsored *National Conference on Socio-Economic and Political Status of Muslims in India: Challenges and Development* organized at the School of Social Sciences and Humanities, B.S. Abdur Rahman

University, Chennai on January 22, 2015.

Delivered lecture on “On the sustainability of global development” was delivered at the UGC Refresher Course “*Economics Batch – XI V: Global Economic Scenario and the Indian Economy*” organized in the Department of Economics, University of Madras, Chennai, September 21, 2013

Delivered lecture on “Economic Valuation of Ecosystem Services and Biodiversity Conservation: A multidisciplinary approach” was delivered at the UGC Refresher Course “*Economics Batch – XI V: Global Economic Scenario and the Indian Economy*” organized in the Department of Economics, University of Madras, Chennai, September 21, 2013

Delivered lecture on ‘Sustainable Buildings – A Pathway Towards Green Cities’ paper presented at the One-day training program on *Making Green Cities: A way for Sustainable Urban Development* at Department of Planning, School of Architecture and Planning, Anna University on March 22, 2013.

Delivered lecture on ‘Arsenic Contamination: An Insight on the Qualitative and Quantitative Pathways of Decontaminating the Natural Toxin’ in the Ministry of Earth Sciences sponsored *National Seminar on Environmental Science and Engineering* at Easwari Engineering College, Chennai on January 10-11, 2013

Delivered lecture on “Sustainable Environment” was delivered and chaired the technical session on “Sustainable Environment”, *National Seminar on Issues and Challenges of Sustainable Development in India* held on January 30 and 31, 2012 organized by Department of Economics, Quaid-E-Millath Government College for Women in collaboration with Association of Economists of Tamil Nadu

Delivered lecture on “Studies on the Removal and Recovery of Toxic Pollutants” was delivered on September 28, 2010 at the *UGC Refresher Course* organized in the Department of Analytical Chemistry, University of Madras, Chennai.

Delivered lecture on “Environment and Economics” was delivered on July 15, 2010 at the World Environment Day 2010 celebration themed “*Biodiversity – Ecosystem Management and the Green Economy*” organized by the Department of Architecture Sathyabama University in Association with the Institute of Town Planners, India – Tamil Nadu Regional Chapter (ITPI-TNRC) & Institute of Indian Architects - Tamil Nadu Chapter (IIA-TNC), July 15 and 16, 2010

Delivered lecture on “Environmental Resource Economics – Theory, Practice and Policy” was delivered at the *UGC Refresher Course* organized in the Department of Economics, University of Madras, Chennai, November 21, 2009

Delivered lecture on “Accounting for Water Quality – Case Study of Arsenic Pollution” on October 3, 2008 in the *Training Programme on Environmental Statistics with special reference to water accounting for Indian Statistical Service Officers*, September 29- October 3, 2008, sponsored by Central Statistical Organization, Government of India

Delivered lecture on “Pre- and Post- Tsunami Coastal Planning and Land-Use Policy Issues in India” was delivered at the UGC Refresher Course on “*Contemporary Economic Policy Issues in India*” at Madras School of Economics, December 4, 2007

Delivered lecture on “Partnership of Media and Community Based Disaster Management in Asia” was delivered at the *Workshop on Media and Disaster Management* organized by The Media

Information and Communication Centre of India (MICCI) in collaboration with the Friedrich Ebert Stiftung, (FES) and the local partner Indian Online Media Forum (IOMF) on December 14 and 15, 2007

Media Interviews

A tamil newspaper article was written in Dinamani, Tamil Newspaper, India (Aug 21, 2011):
Environmental Damage caused by Plastics and Opinion over Charging of Plastic Consumption across Tamil Nadu

<http://www.dinamani.com/edition/Story.aspx?SectionName=Sunday%20Kondattam&artid=463700&SectionID=144&MainSectionID=144&SEO=&Title=%20%20>

An article in The Hindu newspaper, India highlighted my opinion over the link between Happiness and Economy published on January 17, 2010

<http://www.hinduonnet.com/mag/2010/01/17/stories/2010011750050100.htm>

News 7 Tamil satellite television channel to provide inputs on the Virtual Water Consumption of various commodities (July 2015)

Master Degree Thesis Supervised [2018 – ongoing five dissertations]

S. No.	TITLE OF THESIS	YEAR	NAME OF STUDENT
1.	The Impact of Dynamic and Static Shocks on Indian Economic Development: Evidences from a Systematic Review	2017	Mr. Ranjan Chauhan
2.	Over consumption of Natural Resources and the Ecological Trade Deficit Status Check up:- Examining Indian scenario based on Ecological Footprint	2017	Ms. Gouri M
3.	Circular Economy : Inclusion framework of aluminium scrap in its Indian material flow process	2017	Ms. Padma Priya
4.	Topsy-Turvy world of Jobs for the Highly Educated: A Discipline Tracker	2016	Ms. Sowmya Shaklya
5.	The Evolution of Wastewater Treatment in India: Transformation towards Environmental and Economic Efficiency	2016	Mr. Sahil Talwar
6.	Analyzing the Recent Indian Disasters Are Natural or Anthropogenic	2016	Ms. Shiwani Chaddha
7.	Sustainable Livelihood Security Index: A Development Tool for Jharkhand	2016	Mr. Anshuman Kumar Mehta
8.	Gold Consumption, Asset Holding and Debt Holding Pattern in India	2016	Ms. Devi R. Nair
9.	Examining Cross-State Disparities in Maternal Health in India	2016	Ms. Lakshmi Sreedhar

10.	Water Sensitivity: An Indian Scenario	2016	Ms. Anuja Mitra
11.	Catalyst Role of Rail in Empowering Economy: Is the Freight and Passenger Segment on the Fast Track?	2016	Ms. Shivani Gupta
12.	Household Energy Choice and Consumption Intensity: Empirical Evidence of India Transforming to Heat Island	2016	Ms. Divya Jain
13.	Automobile Industry Innovation and Consumer Emission: Burden from Indian Automotive Brands	2016	Ms. Dipti Sourot
14.	Ecosystem Hotspot Identification and Examining the Land Use Change Using Geological Information: Evidence from India	2015	Ms. Anu Anna Jo
15.	Surface Mining and Sustainable Livelihood: Examining the status of Mining sites in Jharkhand and Chattisgarh states through Sustainable Indicators	2015	Ms. Satarupa Rakshit
16.	Water Footprint Analysis of India's Manufacturing Commodities	2015	Ms. Mohana Mondal
17.	The Millennium Breakthrough for a better world: The Performance of the MDG's and the role of Development Aid	2015	Ms. Arpita Nehra
18.	Degrading v/s Sustaining: Evidence from Family, Non-family and Government Owned Indian Firms using Environment Performance Indicators	2015	Ms. Mallika Sharma
19.	Harbour Water Quality Status of Eight Major Ports of India	2015	Ms. Rishman Jot Kaur Chahal
20.	Urban Sustainability Index: Measuring Performance of Fifteen Metropolitan Cities of India	2015	Mr. Utkarsh Patel
21.	Corporate Social Responsibility and Stock Price Crash Risk: Evidence from Information Technology Sector in India	2015	Mr. RKSM. Sennaya Swamy Naickar
22.	A Roadmap to Empowering Panchayati Raj Institutions in India (Special Focus on Karukachal Panchayat)	2015	Ms. Megha Jacob
23.	An Econometric Analysis of International Tourist Arrivals and its Implications: Evidence from Heritage Tourism	2015	Mr. S. Anand
24.	Public Private Partnership in the Indian Service Sector: A State Level Analysis of the Social Infrastructure	2015	Mr. Ashwin Ram. S.
25.	Circulation Economics: Dynamic Material Flow Analysis of Metal Trade in India	2014	Mr. Abhijit Saran
26.	Techno- Economic Assessment of Electronic Waste: Material Flow Analysis and Management Scenario	2014	Mr. Thomas Alex

27.	Poverty, Nutrition and Environment Nexus: Assessment of Madhya Pradesh and Gujarat	2014	Ms. Jagriti Kumari
28.	International Trade and Environmental Linkage between India and ASEAN countries	2014	Mr. Shivam Malhotra
29.	Financial Development and CO ₂ Emissions in India – A Time Series Analysis	2013	Ms. Sneha Mishra
30.	Interlinkage between Public Infrastructure and Agricultural Crop Productivity in India: An Evaluation of the past three decades	2013	Mr. Karthick R
31.	Game Theoretical Approach to Cauvery Conflict	2012	Ms. Jeeva Mary Jacob
32.	Analysing the Pathways to Improve Tiger Conservation in India	2012	Ms. Amanat K. Gill
33.	Determinants of Fuel Choices Among Indian Households: An Empirical Investigation	2012	Mr. Md. Tajuddin Khan
34.	Efficiency of Online Banking Deposits across Domestic and Foreign Banks in India - Using Stochastic Frontier Model	2012	Mr. Dhananjay Jaiswal
35.	An Evaluation of Public and Private Medical Facility Provision across India	2012	Ms. Sowmya. M
36.	Fertilizer Use and Application – An Indian Scenario	2012	Ms. Shobita Suresh
37.	Examining the Current Status of Primary Education Facility in India	2012	Mr. Abdur Rasheed. M
38.	Analyzing the Effectiveness of Imposing Charge for Usage of Plastic Bags in Chennai City	2012	Mr. Yaadhav Dheepan. C
39.	Study on the Adverse Health Impacts caused by Tuberculosis across India	2012	Mr. Siva Chidambaranathan. M
40.	Socio-Economic Analysis of Personal Carbon Trading – A Prospective View of Consumers	2011	Ms. V.P.Jyosthnaa
41.	Financing the response to Climate Change for Developing Countries	2011	Mr. S. Dheeraj
42.	An Analysis of travel characteristics and expenditure on Domestic Tourism in India	2011	Mr. Durairaj R
43.	Modern versus Traditional Retail Stores- Consumers' perspective in Chennai: A Case Study	2011	Mr. Arun Jacob Mathews
44.	Techno-economic analysis of Biofuel - An alternative transportation fuel	2010	Ms. Uttara Prakash
45.	Status and causes for the change in the concentration of natural marine wealth - Coral Reef	2010	Mr. Vijendran
46.	Safer building practices to deal with natural disasters: A study of South Asian countries	2010	Ms. Vaishnavi

47.	Impact of Community awareness programme in the conservation of wetlands: A case study of Vaagaikulam lake	2010	Ms. Divya
48.	Economic Valuation of Cultural Heritage: A Case Study of Kapaleeshwar Temple	2009	Ms. Dhriti Mirpuri
49.	Focus on the role of news media on the electricity problem in Chennai	2009	Mr. Vijayasarithi M
50.	Study on the determination of the cost-effective adsorbents to remove toxic metal pollutants from industrial waste water	2009	Ms. Uvaneswari. P
51.	Valuing the recreational benefit of Guindy National Park in Chennai	2009	Mr. Ramesh K
52.	Assessment of Health impacts on residents living on the banks of the Buckingham Canal	2009	Ms. Vibha. D.S.
53.	The Role of Mass Media on the child labour problems of India	2008	Mr. Karthi J
54.	Assessment of Impact of Water Pollution on human health in the city of Chennai	2008	Mr. Chandrasekar.D
55.	Valuing Ecotourism in Chennai Crocodile Bank	2008	Mr. Prabhakaran T.R

ADDITIONAL PARTICIPATIONS:

ACTIVITY	ACHIEVEMENT	PERIOD
FAO sponsored Regional Workshop cum Training Program on Creating Awareness of Stakeholders on Forest Instruments (NLBI)	Participated in the training workshop	2013
'Bayes by the Bay - A Pedagogical Workshop on Bayesian Methods in Science' conducted by The Institute of Mathematical Sciences	Participated in the training workshop	2013
'Workshop on the Diagnostic Tools and Instruments for Assessing Environmental Challenges: Computable General Equilibrium Modeling and other Approaches' conducted by the Madras School of Economics in collaboration with the South Asia Sustainable Development Department of the World Bank	Participated in the training workshop	2012
International Workshop on the USEPA's AEROMOD modelling system for Environmental Professionals	Participated in the International Workshop	2006
Evaluation workshop of the ENVIS centers of Southern Region at Hyderabad	Participated in the Workshop to represent ENVIS, Centre from Madras School of Economics	2008

International Workshop on the Environmental Management – an Executive Overview	Participated in the International Workshop	2006
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